Common Plastics Dissipation Factor Chart

Plastic	Dielectric Strength		Dielectric Constant			Dissipation Factor		
Abbreviation (chemical name) Brand name	Volts/0.001"		@	@	@	@	@	@
	0.001"	0.005"	1KHz	1MHz	1GHz	1KHz	1MHz	1GHz
ECTFE (ethylene chlorotrifluoro ethylene copolymer)	5000 6000	-------	2.6	2.6	------	0.002	0.013	--------
ETFE (ethylene tetrafluoro-ethylene copolymer) Tefzel	5000	2500	2.6	2.6	2.4	0.0008	0.005	0.0005
FEP (fluorinated ethylene-propylene copolymer) Teflon FEP	6500	2000	2.0 2.5	2.0 2.05	2.05	<0.0002	0.0003	0.0015
PFA (perfluoroalkoxy) Teflon PFA	4000 5000	-------	2.0 2.1	2.0 2.1	2.0 2.1	0.0002	0.0002	0.00045
PCTFE (polychlorotrifluoro-ethylene)	3000 3900	2700 3300	2.5 2.7	2.3 2.4	2.3	0.022 0.024	0.009 0.017	0.004
PTFE (polytetrafluoroethylene) Teflon	2200 4400	1000 2000	2.0 2.1	2.0 2.1	2.0 2.1	<0.0001	<0.0001	<0.0001
PVF (polyvinylfluoride) Tedlar	3500	1700	8.5	7.4	------	1.6	--------	--------
PVDF (polyvinylidenefluoride) Kynar	--------	-------	8.4	------	------	0.019	--------	--------
(polycaprolactam) Nylon6	(0.002") 1300	-------	3.7	3.0	------	0.016	0.036	--------
PC (polycarbonate) Lexan	6300	2000	2.99	2.93	2.89	0.0015	0.010	0.012
PET (polyethyleneterephthalate) Mylar	7500	3400	3.2	3.0	2.8	0.005	0.016	0.003 0.008
LDPE (low density polyethylene)	5000	3000	2.2	2.2	2.2	0.0003	0.0003	0.0003
LLDPE (linear low density polyethylene)	5000	3000	2.2	2.2	2.2	0.0003	0.0003	0.0003
HDPE (high density polyethylene)	5000	3000	2.3	2.3	2.3	0.0005	0.0005	0.0005
UHMWPE (ultra high molecular weight polyethylene)	(0.010") 1300	-------	2.3	2.3	2.3	0.00023	--------	--------
PI (polyimide)	7000	3600	3.5	3.4	3.3	0.0025	0.010	0.004
PMMA (polymethylmethacrylate) Plexiglas	--------	-------	3.5 4.0	3.0 3.5	2.58	0.040	0.030	0.009
PP (polypropylene)	8000	2700	2.2	2.2	2.2	0.0003	0.0003	0.0003
PS (polystyrene) Styron	5000	-------	2.4 2.7	2.4 2.7	2.4 2.7	0.0005	0.0005	0.0005
PVC (polyvinylchloride)	--------	-------	3.0 3.3	2.7 3.1	2.8	0.009 0.017	0.006 0.017	0.019
PVDC (polyvinylidenechloride) Saran	--------	-------	3.9 4.5	3.0 4.0	2.7	0.052 0.063	0.050 0.080	0.016

This will aid you in selecting suitable plastics for RF projects. Look for plastics with a low dissipation factor. G10/G11 glass epoxy have a poor dissipation factor (0.018) similar to PVC. UHMW (polypropylene) is one tenth the cost of PTFE (Teflon) and very similar dissipation factor